

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **734000** Component **Natural Gas Engine** Fluid **{not provided} (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122031	GFL0122038	
Sample Date		Client Info		25 Jun 2024	06 Jun 2024	
Machine Age	hrs	Client Info		652	507	
Oil Age	hrs	Client Info		652	507	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	57	55	
Chromium	ppm	ASTM D5185m	>4	<1	<1	
Nickel	ppm	ASTM D5185m	>2	2	1	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>3	<1	<1	
Aluminum	ppm	ASTM D5185m	>9	6	3	
Lead	ppm	ASTM D5185m	>30	1	1	
Copper	ppm	ASTM D5185m	>35	18	19	
Tin	ppm	ASTM D5185m	>4	1	1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method				history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 18	history1 22	history2
	ppm ppm		limit/base			
Boron Barium		ASTM D5185m	limit/base	18	22	
Boron	ppm	ASTM D5185m ASTM D5185m	limit/base	18 3	22 <1	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54	22 <1 54	
Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54 12	22 <1 54 13	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54 12 762	22 <1 54 13 727	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54 12 762 1126	22 <1 54 13 727 1051	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54 12 762 1126 736	22 <1 54 13 727 1051 554	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54 12 762 1126 736 1001	22 <1 54 13 727 1051 554 869	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	18 3 54 12 762 1126 736 1001 2768	22 <1 54 13 727 1051 554 869 2130	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >+100	18 3 54 12 762 1126 736 1001 2768 current	22 <1 54 13 727 1051 554 869 2130 history1 34	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >+100	18 3 54 12 762 1126 736 1001 2768 current 30	22 <1 54 13 727 1051 554 869 2130 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base >+100	18 3 54 12 762 1126 736 1001 2768 current 30 9	22 <1 54 13 727 1051 554 869 2130 history1 34 5	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	limit/base >+100 >20	18 3 54 12 762 1126 736 1001 2768 <i>current</i> 30 9 9	22 <1 54 13 727 1051 554 869 2130 history1 34 5 9	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >+100 >20 limit/base	18 3 54 12 762 1126 736 1001 2768 <i>current</i> 30 9 9 9 <i>current</i>	22 <1 54 13 727 1051 554 869 2130 history1 34 5 9 9	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base >+100 >20 limit/base	18 3 54 12 762 1126 736 1001 2768 current 30 9 9 9	22 <1 54 13 727 1051 554 869 2130 history1 34 5 9 history1 0	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >+100 >20 limit/base	18 3 54 12 762 1126 736 1001 2768 <i>current</i> 30 9 9 9 <i>current</i> 0 10.8	22 <1 54 13 727 1051 554 869 2130 history1 34 5 9 history1 0 10.2	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	limit/base >+100 >20 limit/base >20 >30 limit/base	18 3 54 12 762 1126 736 1001 2768 <i>current</i> 30 9 9 9 <i>current</i> 0 10.8 23.0	22 <1 54 13 727 1051 554 869 2130 history1 34 5 9 history1 0 10.2 21.7 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >+100 >20 limit/base >20 >30 limit/base	18 3 54 12 762 1126 736 1001 2768 <i>current</i> 30 9 9 9 <i>current</i> 0 10.8 23.0	22 <1 54 13 727 1051 554 869 2130 history1 34 5 9 <u>history1</u> 0 10.2 21.7	 history2 history2 history2



OIL ANALYSIS REPORT

FT-IR (Direct Tr	rend)		VISUAL		method	limit/bas	e current	history1	history2
Oxidation			White Metal	scalar	*Visual	NONE	NONE	NONE	
sufation			Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
4 Abnomal			Precipitate	scalar	*Visual	NONE	NONE	NONE	
₽ ²⁰ -			Silt	scalar	*Visual	NONE	NONE	NONE	
15-			Debris	scalar	*Visual	NONE	NONE	NONE	
10			Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
		5/24	Appearance	scalar	*Visual	NORML	NORML	NORML	
Jun6/24		Jun25/24	Odor	scalar	*Visual	NORML	NORML	NORML	
			Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
Base Number			Free Water	scalar	*Visual		NEG	NEG	
3.5 (B/H03.0			FLUID PROPE	RTIES	method	limit/bas		history1	history2
0) 2.5 B 2.5 b 2.0			Visc @ 100°C	cSt	ASTM D445		14.2	14.2	
			GRAPHS						
ಜ 1.0 원 0.5			Ferrous Alloys						
0.0		~	60 iron						
Jun6/24		0 10 11	50 - sessesses chromium						
-		-	40-						
Viscosity @ 100)°C		톱 30						
15 - Abnormal			20						
			10-						
(2) 14 (2) 00 (1) 13 (3) 12									
			24 24			/24			
Abnormal			Jun6/24			Jun25/24			
10			Non-ferrous Meta	ls		,			
Jun6/24		0 D A	20 copper						
٦٢		1	neeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee						
			15-						
			<u>۾</u> 10-						
			5 -						
			0			24			
			Jun6/24			un25/24			
			Viscosity @ 100°	2		7	De es Norse ha		
			¹⁶				Base Numbe	r	
			15 - Abnormal				3.5		
			14			17	§ 3.0 -		
						KI KI	2.5 -		
			(2) 00[] 73 75			Market	2.0		
			12			Accel 1			
			Abnormal			a	1.0		
			10				0.0		
			Jun6/24			Jun25/24	Jun6/24		Jun25/24
			Jur			Juni	Jur		Junî
	4		: WearCheck USA - 50 : GFL0122031	1 Madisc Rece		/, NC 2751 7 Jun 2024		rironmental - 652 - Free	lericksburg Hauling 4 Houser Drive
	ANAB	Lab Number		Teste		7 Jun 2024 3 Jun 2024			lericksburg, VA
	TESTING LABORATORY	Unique Number	: 11100360				- Wes Davis		US 22408
	Certificate L2367	Test Package				^			
			contact Customer Serv are outside of the ISO 1					wmi	lo@gflenv.com ⊤∙
			ecifications are based				on rule (JCGM 10)6:2012)	T: F:
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Submitted By: TECHNICIAN ACCOUNT